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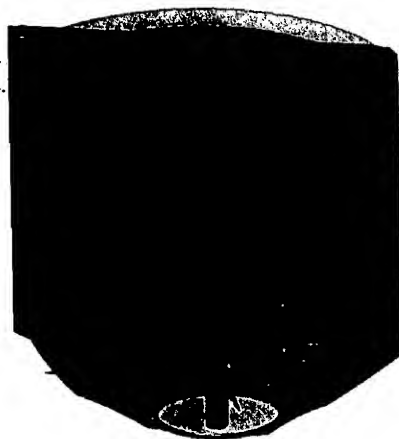
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USPTO Customer No.: 000038283

Provisional Application No.: 60/449,337

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**Title of Invention**     *Foliage Wraps – Foliage Thermal Bags*



**Abstract**

This invention relates to a protective device for foliage used to shelter the foliage from frost and/or freezing conditions. More particularly, it relates to foliage protectors, which can, but are not limited to the use of low wattage heating units as an integral part of the protective device. The invention encapsulates the foliage in a flexible enclosure and is available in various sizes and thermal warming capacities. The foliage protector expressly utilizes waste heat from conventional rope light and/or kapton heater tape for providing the heat source.

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### **Claims**

#### **What is claimed:**

1. A protective device for protecting foliage from damage due to frost or freezing conditions, said protective device utilizes a fabric wrap, which can be formed into an enclosure around the foliage: said enclosure has heating units sewn into the interior of the enclosure.
2. The protective enclosure can be either used as a flat cover or formed, using a restraint device such as Velcro, into a wrap around the foliage.
3. The heating units can either be kapton tape or cylindrical rope light sewn into the interior of the enclosure. Waste heat from the heating unit is used to supply radiant heat into the enclosure. Heating units of various wattages can be installed inside the wrap to allow various thermal capacities for the protective device.
4. The protective device is available in various physical sizes and thermal capacities, and is designed to make the activities of covering foliage easier and more effective. The physical sizes of the protective device are specific to the size

of the foliage the user is covering and the anticipated ambient temperature expected during the freeze warning condition.

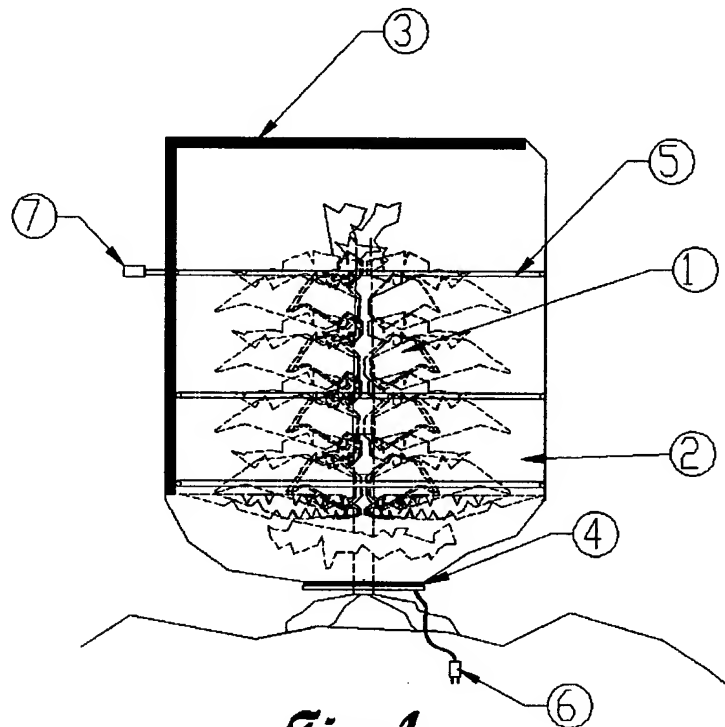
5. The protective device utilizes off-the-shelf heating components pre-approved by UL and assembled according to the physical specifications outlined in the drawings of this application.

6. The heating unit is low voltage and powered by 12V and 120V prime power with fused protection.

7. Each protective device allows the plug in of up to two devices at each plug in point, thus allowing the devices to be cascaded on one common extension cord. Total number of protective devices cascaded on one extension cord is limited to the capacity of the extension cord and the ampacity rating of the fused circuit.

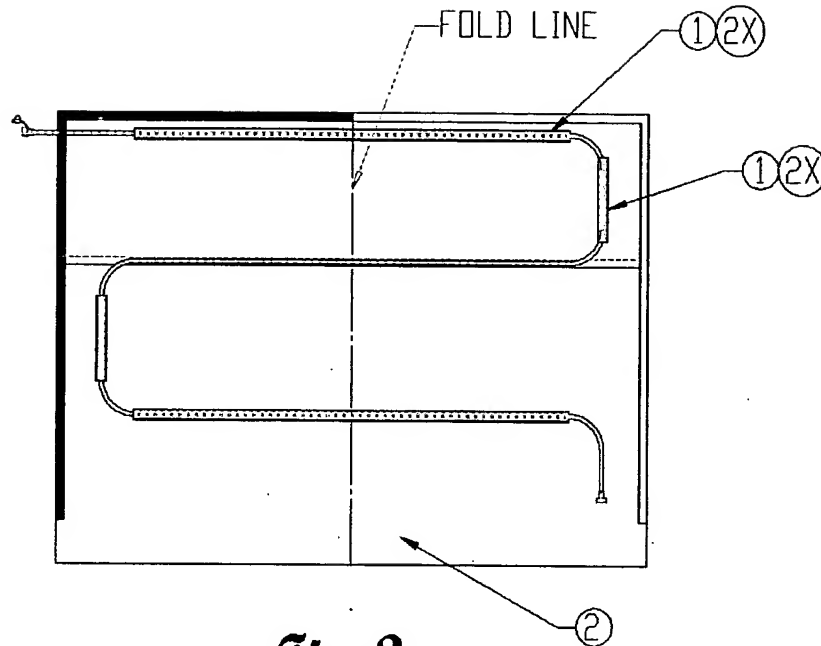
## Description of the Preferred Embodiment

The protective device (*Fig. 1*) is constructed from fabric (*Fig. 1-2*) sewn together in the shape of a flat panel (*Fig. 2*) that can be used to cover foliage. The protective device is 'wrapped' around the foliage and secured using a restraint mechanism, typically Velcro (*Fig. 1-3*).



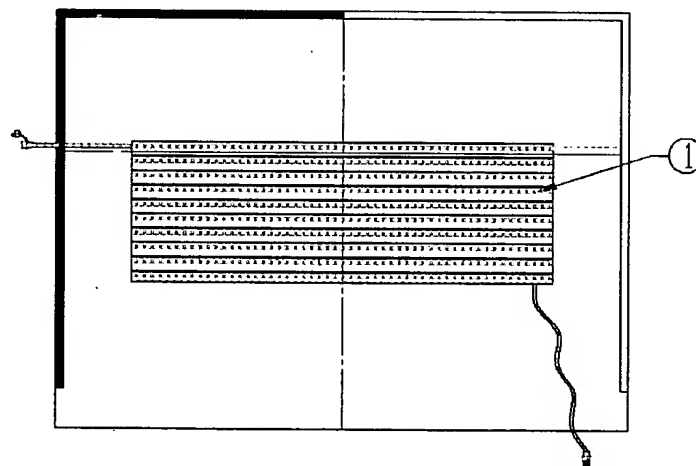
*Fig. 1*

The protective device has thermal heating (*Fig. 1-5*) units sewn in the lining, which provides enough heating capacity to keep the interior temperature of the enclosure above temperatures that adversely affect the health of the foliage. The heating units are secured inside pockets (*Fig. 2-1*) of material sewn into the lining. The pockets space the heating units inside the enclosure for maximum effectiveness. The protective device is available with either rope light or kapton tape (*Fig. 3*) sewn into the lining. The kapton tape (*Fig. 3-1*) version is used where maximum heating capacity is required.



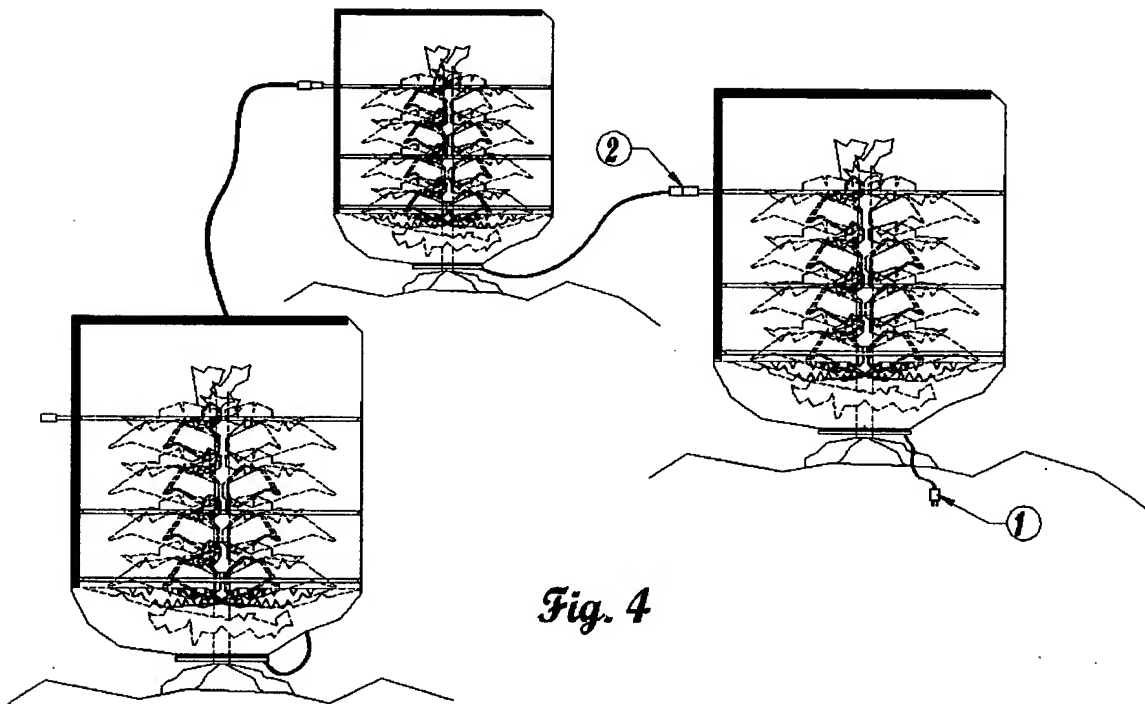
*Fig. 2*

The protective device can be secured around the foliage using a restraint device, typical Velcro (*Fig. 1-3*), thus forming a protective wrap for the foliage. A drawstring (*Fig. 1-4*) is attached at the bottom to allow the enclosure to be closed tightly around the base of the plant. Where necessary, clips are available to help secure the wrap to the foliage and help minimize the volume of air contained inside the wrap.



*Fig. 3*

Multiple devices (*Fig. 4-2*) can be connected together thus allowing them to be cascaded on one common power line (*Fig. 4-1*).



*Fig. 4*